

WHAT IS CLAIMED IS:

1. A computer program product, which when executed performs operations comprising:
 - encoding an association of a computer resource and a resource management policy for the computer resource; and
 - binding one or more encapsulated computations to the encoding.
2. The computer program product of claim 1, wherein the encapsulated computations correspond to a collaborative application.
3. The computer program product of claim 1, wherein an encapsulated computation has a state independent of other encapsulated computations.
4. The computer program product of claim 1, wherein encoding the association includes instantiating a resource domain structure, wherein the resource domain structure indicates a computer resource.
5. The computer program product of claim 4, wherein the encoding further indicates a set of one or more policy actions for the resource, the set of policy actions corresponding to the resource management policy.
6. The computer program product of claim 5, wherein a policy imposing isolate installs the set of policy actions in the resource domain structure.
7. The computer program product of claim 5, wherein the resource domain structure also indicates a set of one or more triggers for the resource, wherein the set of triggers correspond to respective ones of the set of policy actions.
8. The computer program product of claim 4, wherein the resource domain structure also indicates a reservation on the resource.

9. The computer program product of claim 4, wherein binding the one or more encapsulated computations with the encoding comprises indicating in a registry each of the encapsulated computations and the encoding.

10. The computer program product of claim 5, wherein a dispenser retrieves the policy actions from the resource domain structure and executes the policy actions to handle a resource request for the resource, wherein the dispenser is an isolate that handles requests for the resource.

11. The computer program product of claim 1, wherein binding the group of computations with the encoding comprises indicating to each of the encapsulated computations the encoding.

12. The computer program product of claim 1, wherein the computer resource includes physical and logical computer resources.

13. A method comprising:
encoding an association of a computer resource with a resource management policy for the resource; and
binding one or more isolates to the encoding, wherein isolates include encapsulated one or more computations with state independent of other computations.

14. The method of claim 13, wherein the encoding indicates the computer resource.

15. The method of claim 14, wherein the encoding further indicates a set of one or more policy actions corresponding to the resource management policy, wherein execution of the set of policy actions causes a policy decision to be generated for the computer resource.

16. The method of claim 14, wherein a dispenser isolate retrieves the set of policy actions from the encoding and executes the set of policy actions to invoke a policy imposing isolate.

17. The method of claim 14, wherein the encoding also indicates availability of the computer resource.

18. The method of claim 14, wherein the encoding also indicates a reservation on the computer resource.

19. The method of claim 14, wherein the resource management policy is defined by a policy imposing isolate that installs the resource management policy in the encoding.

20. The method of claim 19, wherein the bound isolates include the policy imposing isolate.

21. The method of claim 13 further comprising indicating the encoding in a registry of resource management policy-computer resource association encodings.

22. The method of claim 13 further comprising indicating the computer resource with generic attributes that at least include disposable, revocable, reservable, and bounded.

23. The method of claim 13, wherein the isolates correspond to a collaborative application.

24. A data structure encoded on one or more machine-readable media, the data structure comprising:

- a first field to indicate a computer resource;
- a second field to indicate a resource management policy; and
- a third field to indicate availability of the computer resource.

25. The data structure of claim 24 further comprising a fourth field to indicate an identifier to identify an association between a resource indicated in the first field and a resource management policy indicated in the second field.

26. The data structure of claim 24 further comprising a fourth field to indicate computer resource usage by a set of one or more encapsulated computations bound to the data structure.

27. The data structure of claim 24, wherein the first field indicates a computer resource's attributes.

28. The data structure of claim 27, wherein the computer resource's attributes at least include disposable, revocable, reservable, and bounded.

29. The data structure of claim 24 further comprising a fourth field to indicate a reservation of the computer resource.

30. A computer program product encoded on one or more machine-readable media, wherein the computer program product, when executed, performs operations comprising:

- preventing binding of encapsulated computations with resource domain structures, each of the resource domain structures representing an association between a computer resource and a resource management policy, that indicate the same computer resource; and
- allowing binding of computations with resource domain structures that indicate different computer resources.

31. The computer program product of claim 30 wherein the resource domain structures identify their resource domain and indicate resources and associated resource management policies.

32. The computer program product of claim 31, wherein each of the resource domain structures indicate generic attributes of their computer resource that at least include disposable, revocable, reservable, and bounded.

33. The computer program product of claim 31, wherein the resource domain structures indicate usage of their computer resource.

34. The computer program product of claim 31, wherein the resource domain structures indicate reservations on their corresponding computer resource.

35. A computer program product encoded on one or more machine-readable media, wherein the computer program product comprises:

a resource domain class definition that provides for associating a computer resource with a resource management policy and for binding a set of one or more isolates with an instantiation of a resource domain defined with the resource domain class definition, wherein each of the isolates include a set of one or more encapsulated computations with state independent of other isolates.

36. The computer program product of claim 35, wherein the resource domain class definition provides a routine for determining current usage corresponding to an instance of the resource domain class.

37. The computer program product of claim 35, further comprising one or more routines for unconsuming computer resources.

38. The computer program product of claim 35 further comprising one or more routines for attempting to consume a given amount of a computer resource, with the possibility of success or failure.

39. The computer program product of claim 35 further comprising one or more routines for indicating computations bound to a given resource domain class instance.

40. The computer program product of claim 35 further comprising a sequence of instructions to regulate association of computations with instances of the resource domain class, wherein each instance of the resource domain class indicates different resources.

41. The computer program product of claim 35 further comprising a sequence of instructions to associate resource domain class instances with dispensers that handle resource requests separately from implementation of the resource.

42. An apparatus comprising:
memory; and
means for representing an association between a computer resource and a resource management policy and for binding one or more isolates with the representation of the association of the computer resource and the resource management policy, wherein an isolate includes a set of one or more computations with a state independent of other computations.

43. The apparatus of claim 42, wherein the resource management policy comprises one or more policy actions that provide policy decisions to computer resource requests.

44. The apparatus of claim 43 wherein the resource management policy further comprises triggers that gate execution of policy actions.

45. The apparatus of claim 42 further comprising means for indicating usage of the computer resource.